

SEQUENCE LISTING

<110> HIRANO, Toshio
YAMASHITA, Susumu

<120> EMT-Inducing Agents

<130> SPO-128

<140> US 10/584,742

<141> 2006-06-26

<150> PCT/JP2004/019246

<151> 2004-12-22

<150> JP 2003-435122

<151> 2003-12-26

<160> 43

<170> PatentIn version 3.3

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<212> PRT

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35 40 45

Ser Leu Ala Leu Leu Trp Ala Cys Ser Val Gly Ala Gly Ser Asp Cys
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Lys Ser Val Ala Ile Glu Thr Asp Ser Arg Ile Ala Glu Gln Thr Gln
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Gln Arg His Leu Gln Ala Leu Phe Asp Lys Tyr Gly Gln Asn Gly Ser
85 90 95

Ile Ser Leu Glu Gly Leu Phe Asn Leu Leu Lys Gly Val Gly Leu Asp
100 105 110

Arg Ile Arg Lys Val Met Val His His Pro Gly Asn Ala His Asn His
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Thr His Thr His Asp His Thr His Thr His Val Asp Lys Leu Thr Ala
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His Thr His Pro Val Thr Thr Lys Lys Gly Asp Met Asp His Ser Val
 145 150 155 160

Glu Lys Ser Asp Pro Val Pro Lys Ala Gln Pro Asp Pro Ala Ser Gly
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Lys Lys Ser Gln Ser Asp Ala His His Asn Leu Tyr Met Lys Met Asn
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Gln Glu Ser Thr Thr Ala Leu Thr Thr Pro Ser Tyr Val Thr Arg Ser
 195 200 205

Arg Arg Thr Asn Arg Ser Ala Asp Tyr Asp Phe Thr Gln Asp His Ala
 210 215 220

Ser Phe Ser Pro Ser Gln Pro Asn Val Thr His Ser Asn His Thr His
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His Asp Glu Asp Thr Pro Thr His Gln His Asp Asp His Asp Glu His
 245 250 255

Glu His Ala Arg Ala Ser Leu Gly Cys Gln Asn Ala Ser Thr Ile Leu
 260 265 270

Gln Thr His Gly Met Arg Lys Glu Ala Ser Leu Ser Val Lys Asp Phe
 275 280 285

Ser Phe Leu Cys Pro Ala Leu Leu Met Gln Ile Asp Ser Lys Ser Cys
 290 295 300

Ile Val His Glu Asp Glu Asp Glu His Ser Asp His Ser His His His
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Lys His His His His His His Asp His Gln His Leu Gln His Pro His
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Asn His Thr Asn Gly Arg Gly Gln Arg Asn Thr Pro Val Tyr Ile Ala
 340 345 350

Trp Leu Gly Gly Phe Leu Ser Ile Thr Leu Ile Ser Leu Leu Ala Leu
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Val Gly Val Val Leu Ile Pro Leu Met Asn Arg Val Cys Phe Asn Phe
 370 375 380

Leu Leu Ser Phe Leu Val Ala Leu Ala Val Gly Thr Leu Ser Gly Asp
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Ala Leu Leu His Leu Ile Pro His Ser Gln Gly His His His His Gly
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His Ser Glu Glu His Ala Glu Glu Glu Asp Ser Leu Arg Pro Val Trp
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Thr Gly Leu Thr Ala Leu Ser Gly Val Tyr Ile Met Phe Leu Ile Glu
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His Phe Leu Thr Leu Gly Lys Met Tyr Lys Asp Lys Asn Gln Lys Val
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Gln Lys Arg Val Asp Leu Thr Thr Glu Val Leu Glu Ser Glu Lys Leu
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Pro Ser Leu Glu Glu Asn Asp Val Lys Ile Glu Ala Ala Glu Thr Asn
 485 490 495

Gly Gly Arg Ala Leu Ala Glu Glu Glu Glu Val Met Leu Gly Ala Glu
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 Gly Glu Asn Asn Ser Leu Ser Val Glu Gly Phe Arg Lys Leu Leu Gln
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 Ser Ala Ser Glu Val Thr Ser Thr Val Tyr Asn Thr Val Ser Glu Gly
 180 185 190
 Thr His Phe Leu Glu Thr Ile Glu Thr Pro Arg Pro Gly Lys Leu Phe
 195 200 205
 Pro Lys Asp Val Ser Ser Ser Thr Pro Pro Ser Val Thr Ser Lys Ser
 210 215 220

Arg Val Ser Arg Leu Ala Gly Arg Lys Thr Asn Glu Ser Val Ser Glu
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Pro Arg Lys Gly Phe Met Tyr Ser Arg Asn Thr Asn Glu Asn Pro Gln
 245 250 255

Glu Cys Phe Asn Ala Ser Lys Leu Leu Thr Ser His Gly Met Gly Ile
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Gln Val Pro Leu Asn Ala Thr Glu Phe Asn Tyr Leu Cys Pro Ala Ile
 275 280 285

Ile Asn Gln Ile Asp Ala Arg Ser Cys Leu Ile His Thr Ser Glu Lys
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Lys Ala Glu Ile Pro Pro Lys Thr Tyr Ser Leu Gln Ile Ala Trp Val
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Gly Gly Phe Ile Ala Ile Ser Ile Ile Ser Phe Leu Ser Leu Leu Gly
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Val Ile Leu Val Pro Leu Met Asn Arg Val Phe Phe Lys Phe Leu Leu
 340 345 350

Ser Phe Leu Val Ala Leu Ala Val Gly Thr Leu Ser Gly Asp Ala Phe
 355 360 365

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 370 375 380

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 385 390 395 400

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 405 410 415

Lys Gly Leu Thr Ala Leu Gly Gly Leu Tyr Phe Met Phe Leu Val Glu
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His Val Leu Thr Leu Ile Lys Gln Phe Lys Asp Lys Lys Lys Lys Asn
 435 440 445

Gln Lys Lys Pro Glu Asn Asp Asp Asp Val Glu Ile Lys Lys Gln Leu
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 465 470 475 480

Asp Asp Arg Thr Glu Gly Tyr Leu Arg Ala Asp Ser Gln Glu Pro Ser
 485 490 495

His Phe Asp Ser Gln Gln Pro Ala Val Leu Glu Glu Glu Glu Val Met
 500 505 510

Ile Ala His Ala His Pro Gln Glu Val Tyr Asn Glu Tyr Val Pro Arg
 515 520 525

Gly Cys Lys Asn Lys Cys His Ser His Phe His Asp Thr Leu Gly Gln
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His His His His Gln Asn His His Pro His Ser His Ser Gln Arg Tyr
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Val Ile Met Gly Asp Gly Leu His Asn Phe Ser Asp Gly Leu Ala Ile
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Gly Ala Ala Phe Thr Glu Gly Leu Ser Ser Gly Leu Ser Thr Ser Val
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Ala Val Phe Cys His Glu Leu Pro His Glu Leu Gly Asp Phe Ala Val
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Leu Ser Ala Met Leu Ala Tyr Leu Gly Met Ala Thr Gly Ile Phe Ile
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Gly Leu Phe Met Tyr Val Ala Leu Val Asp Met Val Pro Glu Met Leu
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Leu Gln Asn Ala Gly Met Leu Leu Gly Phe Gly Ile Met Leu Leu Ile
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35 40 45

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35 40 45

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 35 40 45

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Thr Ser Val Ala Ile Leu Cys Glu Glu Phe Pro His Glu Leu Gly Asp
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Phe Val Ile Leu Leu Asn Ala Gly Met Ser
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His Thr His Glu Ser Ile Trp His Gly His Thr His Asp His Asp His
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Gly His Ser His Glu Asp Leu His His Gly His Ser His Gly Tyr Ser
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cat gag agc ctc tac cac aga gga cat gga cat gac cat gag cat agc      394
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                    115                                120                    125

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Asp Ala Val Thr Leu Trp Ala Tyr Ala Leu Gly Ala Thr Val Leu Ile
130                                135                                140                    145

tca gca gct cca ttt ttt gtc ctc ttc ctt atc ccc gtg gag tcg aac      538
Ser Ala Ala Pro Phe Phe Val Leu Phe Leu Ile Pro Val Glu Ser Asn
                    150                                155                    160

tct ccc cgg cat cgc tct cta ctt cag atc ttg ctc agt ttt gct tcc      586
Ser Pro Arg His Arg Ser Leu Leu Gln Ile Leu Leu Ser Phe Ala Ser
                    165                                170                    175

ggt ggg ctc ctg gga gat gct ttc ctg cac ctc att cct cat gct ctt      634
Gly Gly Leu Leu Gly Asp Ala Phe Leu His Leu Ile Pro His Ala Leu
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cac agt ggc cag ggc ccc att ctg tct gtg gga ctg tgg gtt ctc agt His Ser Gly Gln Gly Pro Ile Leu Ser Val Gly Leu Trp Val Leu Ser 210 215 220 225	730
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cag agc tca gag gaa gaa gaa aag gaa aca aga ggg gtt cag aag agg Gln Ser Ser Glu Glu Glu Glu Lys Glu Thr Arg Gly Val Gln Lys Arg 275 280 285	922
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Ser Val Leu Pro Glu Leu Leu Arg Glu Ala Ser Pro Leu Gln Ser Leu	
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ctg gag gtg ctg ggg ctg ctg ggg gga gtt atc atg atg gtg ctg att	1450
Leu Glu Val Leu Gly Leu Leu Gly Gly Val Ile Met Met Val Leu Ile	
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Ala His Leu Glu	
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His Ser His Glu Asp Phe His His Gly His Ser His Ala His Gly His
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Gly His Thr His Glu Ser Ile Trp His Gly His Thr His Asp His Asp
 65 70 75 80

His Gly His Ser His Glu Asp Leu His His Gly His Ser His Gly Tyr
 85 90 95

Ser His Glu Ser Leu Tyr His Arg Gly His Gly His Asp His Glu His
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Ser His Gly Gly Tyr Gly Glu Ser Gly Ala Pro Gly Ile Lys Gln Asp
 115 120 125

Leu Asp Ala Val Thr Leu Trp Ala Tyr Ala Leu Gly Ala Thr Val Leu
 130 135 140

Ile Ser Ala Ala Pro Phe Phe Val Leu Phe Leu Ile Pro Val Glu Ser
 145 150 155 160

Asn Ser Pro Arg His Arg Ser Leu Leu Gln Ile Leu Leu Ser Phe Ala
 165 170 175

Ser Gly Gly Leu Leu Gly Asp Ala Phe Leu His Leu Ile Pro His Ala
 180 185 190

Leu Glu Pro His Ser His His Thr Leu Glu Gln Pro Gly His Gly His
 195 200 205

Ser His Ser Gly Gln Gly Pro Ile Leu Ser Val Gly Leu Trp Val Leu
 210 215 220

Ser Gly Ile Val Ala Phe Leu Val Val Glu Lys Phe Val Arg His Val
 225 230 235 240

Lys Gly Gly His Gly His Ser His Gly His Gly His Ala His Ser His
 245 250 255

Thr Arg Gly Ser His Gly His Gly Arg Gln Glu Arg Ser Thr Lys Glu
 260 265 270

Lys Gln Ser Ser Glu Glu Glu Glu Lys Glu Thr Arg Gly Val Gln Lys
 275 280 285

Arg Arg Gly Gly Ser Thr Val Pro Lys Asp Gly Pro Val Arg Pro Gln
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Asn Ala Glu Glu Glu Lys Arg Gly Leu Asp Leu Arg Val Ser Gly Tyr
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 325 330 335

Ile Gly Ala Ser Phe Arg Gly Gly Arg Gly Leu Gly Ile Leu Thr Thr
 340 345 350

Met Thr Val Leu Leu His Glu Val Pro His Glu Val Gly Asp Phe Ala
 355 360 365

Ile Leu Val Gln Ser Gly Cys Ser Lys Lys Gln Ala Met Arg Leu Gln
 370 375 380

Leu Leu Thr Ala Val Gly Ala Leu Ala Gly Thr Ala Cys Ala Leu Leu
 385 390 395 400

Thr Glu Gly Gly Ala Val Gly Ser Glu Ile Ala Gly Gly Ala Gly Pro
 405 410 415

Gly Trp Val Leu Pro Phe Thr Ala Gly Gly Phe Ile Tyr Val Ala Thr
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Val Ser Val Leu Pro Glu Leu Leu Arg Glu Ala Ser Pro Leu Gln Ser
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 Met Lys Val His Met His Thr Lys Phe Cys Leu
 1 5 10
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 Ile Cys Leu Leu Thr Phe Ile Phe His His Cys Asn His Cys His Glu
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 gaa cat gac cat ggc cct gaa gcg ctt cac aga cag cat cgt gga atg 207
 Glu His Asp His Gly Pro Glu Ala Leu His Arg Gln His Arg Gly Met
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 Thr Glu Leu Glu Pro Ser Lys Phe Ser Lys Gln Ala Ala Glu Asn Glu
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 aaa aaa tac tat att gaa aaa ctt ttt gag cgt tat ggt gaa aat gga 303
 Lys Lys Tyr Tyr Ile Glu Lys Leu Phe Glu Arg Tyr Gly Glu Asn Gly
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 Arg Leu Ser Phe Phe Gly Leu Glu Lys Leu Leu Thr Asn Leu Gly Leu
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 Gly Glu Arg Lys Val Val Glu Ile Asn His Glu Asp Leu Gly His Asp
 95 100 105
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 His Val Ser His Leu Asp Ile Leu Ala Val Gln Glu Gly Lys His Phe
 110 115 120
 cac tca cat aac cac cag cat tcc cat aat cat tta aat tca gaa aat 495
 His Ser His Asn His Gln His Ser His Asn His Leu Asn Ser Glu Asn
 125 130 135
 caa act gtg acc agt gta tcc aca aaa aga aac cat aaa tgt gat cca 543
 Gln Thr Val Thr Ser Val Ser Thr Lys Arg Asn His Lys Cys Asp Pro
 140 145 150 155
 gag aaa gag aca gtt gaa gtg tct gta aaa tct gat gat aaa cat atg 591
 Glu Lys Glu Thr Val Glu Val Ser Val Lys Ser Asp Asp Lys His Met
 160 165 170

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Phe Ile Phe His His Cys Asn His Cys His Glu Glu His Asp His Gly
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Pro Glu Ala Leu His Arg Gln His Arg Gly Met Thr Glu Leu Glu Pro
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Ser Lys Phe Ser Lys Gln Ala Ala Glu Asn Glu Lys Lys Tyr Tyr Ile
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 85 90 95
 Val Glu Ile Asn His Glu Asp Leu Gly His Asp His Val Ser His Leu
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 Asp Ile Leu Ala Val Gln Glu Gly Lys His Phe His Ser His Asn His
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 Gln His Ser His Asn His Leu Asn Ser Glu Asn Gln Thr Val Thr Ser
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 Val Ser Thr Lys Arg Asn His Lys Cys Asp Pro Glu Lys Glu Thr Val
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 Glu Val Ser Val Lys Ser Asp Asp Lys His Met His Asp His Asn His
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 Arg Leu Arg His His His Arg Leu His His His Leu Asp His Asn Asn
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 Thr His His Phe His Asn Asp Ser Ile Thr Pro Ser Glu Arg Gly Glu
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 210 215 220
 Asp Val Lys Leu Pro Lys Gly Lys Arg Lys Lys Lys Gly Arg Lys Ser
 225 230 235 240
 Asn Glu Asn Ser Glu Val Ile Thr Pro Gly Phe Pro Pro Asn His Asp
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 Gln Gly Glu Gln Tyr Glu His Asn Arg Val His Lys Pro Asp Arg Val
 260 265 270
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 275 280 285

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 290 295 300

Leu Arg His Thr Arg Lys Arg Glu Ala Pro His Val Lys Asn Asn Ala
 305 310 315 320

Ile Ile Ser Leu Arg Lys Asp Leu Asn Glu Asp Asp His His His Glu
 325 330 335

Cys Leu Asn Val Thr Gln Leu Leu Lys Tyr Tyr Gly His Gly Ala Asn
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Ser Pro Ile Ser Thr Asp Leu Phe Thr Tyr Leu Cys Pro Ala Leu Leu
 355 360 365

Tyr Gln Ile Asp Ser Arg Leu Cys Ile Glu His Phe Asp Lys Leu Leu
 370 375 380

Val Glu Asp Ile Asn Lys Asp Lys Asn Leu Val Pro Glu Asp Glu Ala
 385 390 395 400

Asn Ile Gly Ala Ser Ala Trp Ile Cys Gly Ile Ile Ser Ile Thr Val
 405 410 415

Ile Ser Leu Leu Ser Leu Leu Gly Val Ile Leu Val Pro Ile Ile Asn
 420 425 430

Gln Gly Cys Phe Lys Phe Leu Leu Thr Phe Leu Val Ala Leu Ala Val
 435 440 445

Gly Thr Met Ser Gly Asp Ala Leu Leu His Leu Leu Pro His Ser Gln
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Gly Gly His Asp His Ser His Gln His Ala His Gly His Gly His Ser
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His Gly His Glu Ser Asn Lys Phe Leu Glu Glu Tyr Asp Ala Val Leu
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Lys Gly Leu Val Ala Leu Gly Gly Ile Tyr Leu Leu Phe Ile Ile Glu
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His Cys Ile Arg Met Phe Lys His Tyr Lys Gln Gln Arg Gly Lys Gln
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Lys Trp Phe Met Lys Gln Asn Thr Glu Glu Ser Thr Ile Gly Arg Lys
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Leu Ser Asp His Lys Leu Asn Asn Thr Pro Asp Ser Asp Trp Leu Gln
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Leu Lys Pro Leu Ala Gly Thr Asp Asp Ser Val Val Ser Glu Asp Arg
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Leu Asn Glu Thr Glu Leu Thr Asp Leu Glu Gly Gln Gln Glu Ser Pro
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Pro Lys Asn Tyr Leu Cys Ile Glu Glu Glu Lys Ile Ile Asp His Ser
 595 600 605

His Ser Asp Gly Leu His Thr Ile His Glu His Asp Leu His Ala Ala
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Ala His Asn His His Gly Glu Asn Lys Thr Val Leu Arg Lys His Asn
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His Gln Trp His His Lys His Ser His His Ser His Gly Pro Cys His
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Ser Gly Ser Asp Leu Lys Glu Thr Gly Ile Ala Asn Ile Ala Trp Met
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Val Ile Met Gly Asp Gly Ile His Asn Phe Ser Asp Gly Leu Ala Ile
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Gly Ala Ala Phe Ser Ala Gly Leu Thr Gly Gly Ile Ser Thr Ser Ile
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Ala Val Phe Cys His Glu Leu Pro His Glu Leu Gly Asp Phe Ala Val
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Gly Gln Tyr Ala Asn Asn Ile Thr Leu Trp Ile Phe Ala Val Thr Ala
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Gly Met Phe Leu Tyr Val Ala Leu Val Asp Met Leu Pro Glu Met Leu
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His Gly Asp Gly Asp Asn Glu Glu His Gly Phe Cys Pro Val Gly Gln
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Phe Ile Leu Gln Asn Leu Gly Leu Leu Phe Gly Phe Ala Ile Met Leu
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 Met Ala Arg Lys Leu Ser Val Ile Leu Ile Leu
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 Thr Phe Ala Leu Ser Val Thr Asn Pro Leu His Glu Leu Lys Ala Ala
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 Ile Asn Val Asp Leu Ala Ile Ser Thr Arg Gln Tyr His Leu Gln Gln
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 Asn Phe

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Ala Ile Ser Thr Arg Gln Tyr His Leu Gln Gln Leu Phe Tyr Arg Tyr
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Asn Ile Gly Ile Asp Lys Ile Lys Arg Ile His Ile His His Asp His
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His Arg Pro Glu His Ala Ser Gly Arg Arg Asn Val Lys Asp Ser Val
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Thr His Phe Leu Glu Thr Ile Glu Thr Pro Arg Pro Gly Lys Leu Phe
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Glu Cys Phe Asn Ala Ser Lys Leu Leu Thr Ser His Gly Met Gly Ile
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Gln Val Pro Leu Asn Ala Thr Glu Phe Asn Tyr Leu Cys Pro Ala Ile
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Ile Asn Gln Ile Asp Ala Arg Ser Cys Leu Ile His Thr Ser Glu Lys
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Gly Gly Phe Ile Ala Ile Ser Ile Ile Ser Phe Leu Ser Leu Leu Gly
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Ser Phe Leu Val Ala Leu Ala Val Gly Thr Leu Ser Gly Asp Ala Phe
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His Glu Glu Pro Ala Met Glu Met Lys Arg Gly Pro Leu Phe Ser His
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Lys Gly Leu Thr Ala Leu Gly Gly Leu Tyr Phe Met Phe Leu Val Glu
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His Val Leu Thr Leu Ile Lys Gln Phe Lys Asp Lys Lys Lys Lys Asn
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Gln Lys Lys Pro Glu Asn Asp Asp Asp Val Glu Ile Lys Lys Gln Leu
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Asp Asp Arg Thr Glu Gly Tyr Leu Arg Ala Asp Ser Gln Glu Pro Ser
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His Phe Asp Ser Gln Gln Pro Ala Val Leu Glu Glu Glu Glu Val Met
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Val Ile Met Gly Asp Gly Leu His Asn Phe Ser Asp Gly Leu Ala Ile
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Trp Gly Phe Gly Phe Leu Ser Val Ser Leu Ile Asn Leu Ala Ser Leu
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tgtggactgt aaatgtttta ttgtaagat tctataaata aagctatatt ctgtaattgt 4605
tgagaaaaaa aaaaaaaaaa aa 4627

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<210> 32
<211> 492
<212> PRT
<213> Homo sapiens

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<400> 32

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Met Lys Leu Leu Leu Leu His Pro Ala Phe Gln Ser Cys Leu Leu Leu
1 5 10 15

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Thr Leu Leu Gly Leu Trp Arg Thr Thr Pro Glu Ala His Ala Ser Ser
20 25 30

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Leu Gly Ala Pro Ala Ile Ser Ala Ala Ser Phe Leu Gln Asp Leu Ile
35 40 45

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```

His Arg Tyr Gly Glu Gly Asp Ser Pro Thr Leu Gln Gln Leu Lys Ala
50 55 60

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```

Leu Leu Asn His Leu Asp Val Gly Val Gly Arg Gly Asn Val Thr Gln
65 70 75 80

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```

His Val Gln Gly His Arg Asn Leu Ser Thr Cys Phe Ser Ser Gly Asp
85 90 95

```

```

Leu Phe Thr Ala His Asn Phe Ser Glu Gln Ser Arg Ile Gly Ser Ser
100 105 110

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```

Glu Leu Gln Glu Phe Cys Pro Thr Ile Leu Gln Gln Leu Asp Ser Arg
115 120 125

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Ala Cys Thr Ser Glu Asn Gln Glu Asn Glu Glu Asn Glu Gln Thr Glu
130 135 140

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Glu Gly Arg Pro Ser Ala Val Glu Val Trp Gly Phe Gly Phe Leu Ser
 145 150 155 160

Val Ser Leu Ile Asn Leu Ala Ser Leu Leu Gly Val Leu Val Leu Pro
 165 170 175

Cys Thr Glu Lys Ala Phe Phe Ser Arg Val Leu Thr Tyr Phe Ile Ala
 180 185 190

Leu Ser Ile Gly Thr Leu Leu Ser Asn Ala Leu Phe Gln Leu Ile Pro
 195 200 205

Glu Ala Phe Gly Phe Asn Pro Leu Glu Asp Tyr Tyr Val Ser Lys Ser
 210 215 220

Ala Val Val Phe Gly Gly Phe Tyr Leu Phe Phe Phe Thr Glu Lys Ile
 225 230 235 240

Leu Lys Ile Leu Leu Lys Gln Lys Asn Glu His His His Gly His Ser
 245 250 255

His Tyr Ala Ser Glu Ser Leu Pro Ser Lys Lys Asp Gln Glu Glu Gly
 260 265 270

Val Met Glu Lys Leu Gln Asn Gly Asp Leu Asp His Met Ile Pro Gln
 275 280 285

His Cys Ser Ser Glu Leu Asp Gly Lys Ala Pro Met Val Asp Glu Lys
 290 295 300

Val Ile Val Gly Ser Leu Ser Val Gln Asp Leu Gln Ala Ser Gln Ser
 305 310 315 320

Ala Cys Tyr Trp Leu Lys Gly Val Arg Tyr Ser Asp Ile Gly Thr Leu
 325 330 335

Ala Trp Met Ile Thr Leu Ser Asp Gly Leu His Asn Phe Ile Asp Gly
 340 345 350

Leu Ala Ile Gly Ala Ser Phe Thr Val Ser Val Phe Gln Gly Ile Ser
 355 360 365

Thr Ser Val Ala Ile Leu Cys Glu Glu Phe Pro Arg Glu Leu Gly Asp
 370 375 380

Phe Val Ile Leu Leu Asn Ala Gly Met Ser Ile Gln Gln Ala Leu Phe
 385 390 395 400

Phe Asn Phe Leu Ser Ala Cys Cys Cys Tyr Leu Gly Leu Ala Phe Gly
 405 410 415

Ile Leu Ala Gly Ser His Phe Ser Ala Asn Trp Ile Phe Ala Leu Ala
 420 425 430

Gly Gly Met Phe Leu Tyr Ile Ser Leu Ala Asp Met Phe Pro Glu Met
 435 440 445

Asn Glu Val Cys Gln Glu Asp Glu Arg Lys Gly Ser Ile Leu Ile Pro
 450 455 460

Phe Ile Ile Gln Asn Leu Gly Leu Leu Thr Gly Phe Thr Ile Met Val
 465 470 475 480

Val Leu Thr Met Tyr Ser Gly Gln Ile Gln Ile Gly
 485 490

<210> 33
 <211> 2178
 <212> DNA
 <213> Homo sapiens

<220>
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 <222> (87)..(2030)

<400> 33
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cccactgagc acgctgggag ctgagt atg gcg tcc ctg gtc tcg ctg gag ctg 113
 Met Ala Ser Leu Val Ser Leu Glu Leu
 1 5

ggg ctg ctt ctg gct gtg ctg gtg gtg acg gcg acg gcg tcc ccg cct 161
 Gly Leu Leu Leu Ala Val Leu Val Val Thr Ala Thr Ala Ser Pro Pro
 10 15 20 25

gct ggt ctg ctg agc ctg ctc acc tct ggc cag ggc gct ctg gat caa 209
 Ala Gly Leu Leu Ser Leu Leu Thr Ser Gly Gln Gly Ala Leu Asp Gln
 30 35 40

gag gct ctg ggc ggc ctg tta aat acg ctg gcg gac cgt gtg cac tgc	257
Glu Ala Leu Gly Gly Leu Leu Asn Thr Leu Ala Asp Arg Val His Cys	
45 50 55	
acc aac ggg ccg tgt gga aag tgc ctg tct gtg gag gac gcc ctg ggc	305
Thr Asn Gly Pro Cys Gly Lys Cys Leu Ser Val Glu Asp Ala Leu Gly	
60 65 70	
ctg ggc gag cct gag ggg tca ggg ctg ccc ccg ggc ccg gtc ctg gag	353
Leu Gly Glu Pro Glu Gly Ser Gly Leu Pro Pro Gly Pro Val Leu Glu	
75 80 85	
gcc agg tac gtc gcc cgc ctc agt gcc gcc gcc gtc ctg tac ctc agc	401
Ala Arg Tyr Val Ala Arg Leu Ser Ala Ala Ala Val Leu Tyr Leu Ser	
90 95 100 105	
aac ccc gag ggc acc tgt gag gac act cgg gct ggc ctc tgg gcc tct	449
Asn Pro Glu Gly Thr Cys Glu Asp Thr Arg Ala Gly Leu Trp Ala Ser	
110 115 120	
cat gca gac cac ctc ctg gcc ctg ctc gag agc ccc aag gcc ctg acc	497
His Ala Asp His Leu Leu Ala Leu Leu Glu Ser Pro Lys Ala Leu Thr	
125 130 135	
ccg ggc ctg agc tgg ctg ctg cag agg atg cag gcc ccg gct gcc ggc	545
Pro Gly Leu Ser Trp Leu Leu Gln Arg Met Gln Ala Arg Ala Ala Gly	
140 145 150	
cag acc ccc aag acg gcc tgc gta gat atc cct cag ctg ctg gag gag	593
Gln Thr Pro Lys Thr Ala Cys Val Asp Ile Pro Gln Leu Leu Glu Glu	
155 160 165	
gcg gtg ggg gcg ggg gct ccg ggc agt gct ggc ggc gtc ctg gct gcc	641
Ala Val Gly Ala Gly Ala Pro Gly Ser Ala Gly Gly Val Leu Ala Ala	
170 175 180 185	
ctg ctg gac cat gtc agg agc ggg tct tgc ttc cac gcc ttg ccg agc	689
Leu Leu Asp His Val Arg Ser Gly Ser Cys Phe His Ala Leu Pro Ser	
190 195 200	
cct cag tac ttc gtg gac ttt gtg ttc cag cag cac agc agc gag gtc	737
Pro Gln Tyr Phe Val Asp Phe Val Phe Gln Gln His Ser Ser Glu Val	
205 210 215	
cct atg acg ctg gcc gag ctg tca gcc ttg atg cag cgc ctg ggg gtg	785
Pro Met Thr Leu Ala Glu Leu Ser Ala Leu Met Gln Arg Leu Gly Val	
220 225 230	
ggc agg gag gcc cac agt gac cac agt cat cgg cac agg gga gcc agc	833
Gly Arg Glu Ala His Ser Asp His Ser His Arg His Arg Gly Ala Ser	
235 240 245	
agc cgg gac cct gtg ccc ctc atc agc tcc agc aac agc tcc agt gtg	881
Ser Arg Asp Pro Val Pro Leu Ile Ser Ser Ser Asn Ser Ser Ser Val	
250 255 260 265	

tgg gac acg gta tgc ctg agt gcc agg gac gtg atg gct gca tat gga Trp Asp Thr Val Cys Leu Ser Ala Arg Asp Val Met Ala Ala Tyr Gly 270 275 280	929
ctg tcg gaa cag gct ggg gtg acc ccg gag gcc tgg gcc caa ctg agc Leu Ser Glu Gln Ala Gly Val Thr Pro Glu Ala Trp Ala Gln Leu Ser 285 290 295	977
cct gcc ctg ctc caa cag cag ctg agt gga gcc tgc acc tcc cag tcc Pro Ala Leu Leu Gln Gln Gln Leu Ser Gly Ala Cys Thr Ser Gln Ser 300 305 310	1025
agg ccc ccc gtc cag gac cag ctc agc cag tca gag agg tat ctg tac Arg Pro Pro Val Gln Asp Gln Leu Ser Gln Ser Glu Arg Tyr Leu Tyr 315 320 325	1073
ggc tcc ctg gcc acg ctg ctc atc tgc ctc tgc gcg gtc ttt ggc ctc Gly Ser Leu Ala Thr Leu Leu Ile Cys Leu Cys Ala Val Phe Gly Leu 330 335 340 345	1121
ctg ctg ctg acc tgc act ggc tgc agg ggg gtc acc cac tac atc ctg Leu Leu Leu Thr Cys Thr Gly Cys Arg Gly Val Thr His Tyr Ile Leu 350 355 360	1169
cag acc ttc ctg agc ctg gca gtg ggt gca ctc act ggg gac gct gtc Gln Thr Phe Leu Ser Leu Ala Val Gly Ala Leu Thr Gly Asp Ala Val 365 370 375	1217
ctg cat ctg acg ccc aag gtg ctg ggg ctg cat aca cac agc gaa gag Leu His Leu Thr Pro Lys Val Leu Gly Leu His Thr His Ser Glu Glu 380 385 390	1265
ggc ctc agc cca cag ccc acc tgg cgc ctc ctg gct atg ctg gcc ggg Gly Leu Ser Pro Gln Pro Thr Trp Arg Leu Leu Ala Met Leu Ala Gly 395 400 405	1313
ctc tac gcc ttc ttc ctg ttt gag aac ctc ttc aat ctc ctg ctg ccc Leu Tyr Ala Phe Phe Leu Phe Glu Asn Leu Phe Asn Leu Leu Leu Pro 410 415 420 425	1361
agg gac ccg gag gac ctg gag gac ggg ccc tgc ggc cac agc agc cat Arg Asp Pro Glu Asp Leu Glu Asp Gly Pro Cys Gly His Ser Ser His 430 435 440	1409
agc cac ggg ggc cac agc cac ggt gtg tcc ctg cag ctg gca ccc agc Ser His Gly Gly His Ser His Gly Val Ser Leu Gln Leu Ala Pro Ser 445 450 455	1457
gag ctc cgg cag ccc aag ccc ccc cac gag ggc tcc cgc gca gac ctg Glu Leu Arg Gln Pro Lys Pro Pro His Glu Gly Ser Arg Ala Asp Leu 460 465 470	1505
gtg gcg gag gag agc ccg gag ctg ctg aac cct gag ccc agg aga ctg Val Ala Glu Glu Ser Pro Glu Leu Leu Asn Pro Glu Pro Arg Arg Leu 475 480 485	1553


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agc cca gag ttg agg cta ctg ccc tat atg atc act ctg ggc gac gcc      1601
Ser Pro Glu Leu Arg Leu Leu Pro Tyr Met Ile Thr Leu Gly Asp Ala
490                      495                      500                      505

gtg cac aac ttc gcc gac ggg ctg gcc gtg ggc gcc gcc ttc gcg tcc      1649
Val His Asn Phe Ala Asp Gly Leu Ala Val Gly Ala Ala Phe Ala Ser
                    510                      515                      520

tcc tgg aag acc ggg ctg gcc acc tcg ctg gcc gtg ttc tgc cac gag      1697
Ser Trp Lys Thr Gly Leu Ala Thr Ser Leu Ala Val Phe Cys His Glu
                    525                      530                      535

ttg cca cac gag ctg ggg gac ttc gcc gcc ttg ctg cac gcg ggg ctg      1745
Leu Pro His Glu Leu Gly Asp Phe Ala Ala Leu Leu His Ala Gly Leu
                    540                      545                      550

tcc gtg cgc caa gca ctg ctg ctg aac ctg gcc tcc gcg ctc acg gcc      1793
Ser Val Arg Gln Ala Leu Leu Leu Asn Leu Ala Ser Ala Leu Thr Ala
                    555                      560                      565

ttc gct ggt ctc tac gtg gca ctc gcg gtt gga gtc agc gag gag agc      1841
Phe Ala Gly Leu Tyr Val Ala Leu Ala Val Gly Val Ser Glu Glu Ser
570                      575                      580                      585

gag gcc tgg atc ctg gca gtg gcc acc ggc ctg ttc ctc tac gta gca      1889
Glu Ala Trp Ile Leu Ala Val Ala Thr Gly Leu Phe Leu Tyr Val Ala
                    590                      595                      600

ctc tgc gac atg ctc ccg gcg atg ttg aaa gta cgg gac ccg cgg ccc      1937
Leu Cys Asp Met Leu Pro Ala Met Leu Lys Val Arg Asp Pro Arg Pro
                    605                      610                      615

tgg ctc ctc ttc ctg ctg cac aac gtg ggc ctg ctg ggc ggc tgg acc      1985
Trp Leu Leu Phe Leu Leu His Asn Val Gly Leu Leu Gly Gly Trp Thr
                    620                      625                      630

gtc ctg ctg ctg ctg tcc ctg tac gag gat gac atc acc ttc tga      2030
Val Leu Leu Leu Leu Ser Leu Tyr Glu Asp Asp Ile Thr Phe
                    635                      640                      645

taccctgccc tagtccccca cctttgactt aagatcccac acctcacaaa cctacagccc      2090

agaaaccaga agcccctata gaggccccag tcccaactcc agtaaagaca ctcttgctct      2150

tggaaaaaaa aaaaaaaaaa aaaaaaaa      2178

<210> 34
<211> 647
<212> PRT
<213> Homo sapiens

<400> 34

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Met Ala Ser Leu Val Ser Leu Glu Leu Gly Leu Leu Leu Ala Val Leu
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Val Val Thr Ala Thr Ala Ser Pro Pro Ala Gly Leu Leu Ser Leu Leu
20 25 30

Thr Ser Gly Gln Gly Ala Leu Asp Gln Glu Ala Leu Gly Gly Leu Leu
35 40 45

Asn Thr Leu Ala Asp Arg Val His Cys Thr Asn Gly Pro Cys Gly Lys
50 55 60

Cys Leu Ser Val Glu Asp Ala Leu Gly Leu Gly Glu Pro Glu Gly Ser
65 70 75 80

Gly Leu Pro Pro Gly Pro Val Leu Glu Ala Arg Tyr Val Ala Arg Leu
85 90 95

Ser Ala Ala Ala Val Leu Tyr Leu Ser Asn Pro Glu Gly Thr Cys Glu
100 105 110

Asp Thr Arg Ala Gly Leu Trp Ala Ser His Ala Asp His Leu Leu Ala
115 120 125

Leu Leu Glu Ser Pro Lys Ala Leu Thr Pro Gly Leu Ser Trp Leu Leu
130 135 140

Gln Arg Met Gln Ala Arg Ala Ala Gly Gln Thr Pro Lys Thr Ala Cys
145 150 155 160

Val Asp Ile Pro Gln Leu Leu Glu Glu Ala Val Gly Ala Gly Ala Pro
165 170 175

Gly Ser Ala Gly Gly Val Leu Ala Ala Leu Leu Asp His Val Arg Ser
180 185 190

Gly Ser Cys Phe His Ala Leu Pro Ser Pro Gln Tyr Phe Val Asp Phe
195 200 205

Val Phe Gln Gln His Ser Ser Glu Val Pro Met Thr Leu Ala Glu Leu
210 215 220

Ser Ala Leu Met Gln Arg Leu Gly Val Gly Arg Glu Ala His Ser Asp
 225 230 235 240

His Ser His Arg His Arg Gly Ala Ser Ser Arg Asp Pro Val Pro Leu
 245 250 255

Ile Ser Ser Ser Asn Ser Ser Ser Val Trp Asp Thr Val Cys Leu Ser
 260 265 270

Ala Arg Asp Val Met Ala Ala Tyr Gly Leu Ser Glu Gln Ala Gly Val
 275 280 285

Thr Pro Glu Ala Trp Ala Gln Leu Ser Pro Ala Leu Leu Gln Gln Gln
 290 295 300

Leu Ser Gly Ala Cys Thr Ser Gln Ser Arg Pro Pro Val Gln Asp Gln
 305 310 315 320

Leu Ser Gln Ser Glu Arg Tyr Leu Tyr Gly Ser Leu Ala Thr Leu Leu
 325 330 335

Ile Cys Leu Cys Ala Val Phe Gly Leu Leu Leu Leu Thr Cys Thr Gly
 340 345 350

Cys Arg Gly Val Thr His Tyr Ile Leu Gln Thr Phe Leu Ser Leu Ala
 355 360 365

Val Gly Ala Leu Thr Gly Asp Ala Val Leu His Leu Thr Pro Lys Val
 370 375 380

Leu Gly Leu His Thr His Ser Glu Glu Gly Leu Ser Pro Gln Pro Thr
 385 390 395 400

Trp Arg Leu Leu Ala Met Leu Ala Gly Leu Tyr Ala Phe Phe Leu Phe
 405 410 415

Glu Asn Leu Phe Asn Leu Leu Leu Pro Arg Asp Pro Glu Asp Leu Glu
 420 425 430

Asp Gly Pro Cys Gly His Ser Ser His Ser His Gly Gly His Ser His
 435 440 445

Gly Val Ser Leu Gln Leu Ala Pro Ser Glu Leu Arg Gln Pro Lys Pro
 450 455 460

Pro His Glu Gly Ser Arg Ala Asp Leu Val Ala Glu Glu Ser Pro Glu
 465 470 475 480

Leu Leu Asn Pro Glu Pro Arg Arg Leu Ser Pro Glu Leu Arg Leu Leu
 485 490 495

Pro Tyr Met Ile Thr Leu Gly Asp Ala Val His Asn Phe Ala Asp Gly
 500 505 510

Leu Ala Val Gly Ala Ala Phe Ala Ser Ser Trp Lys Thr Gly Leu Ala
 515 520 525

Thr Ser Leu Ala Val Phe Cys His Glu Leu Pro His Glu Leu Gly Asp
 530 535 540

Phe Ala Ala Leu Leu His Ala Gly Leu Ser Val Arg Gln Ala Leu Leu
 545 550 555 560

Leu Asn Leu Ala Ser Ala Leu Thr Ala Phe Ala Gly Leu Tyr Val Ala
 565 570 575

Leu Ala Val Gly Val Ser Glu Glu Ser Glu Ala Trp Ile Leu Ala Val
 580 585 590

Ala Thr Gly Leu Phe Leu Tyr Val Ala Leu Cys Asp Met Leu Pro Ala
 595 600 605

Met Leu Lys Val Arg Asp Pro Arg Pro Trp Leu Leu Phe Leu Leu His
 610 615 620

Asn Val Gly Leu Leu Gly Gly Trp Thr Val Leu Leu Leu Leu Ser Leu
 625 630 635 640

Tyr Glu Asp Asp Ile Thr Phe
 645

<210> 35
 <211> 3246
 <212> DNA
 <213> Homo sapiens

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<220>
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<222> (478) .. (1860)

<220>
<221> misc_feature
<222> (2530) .. (2530)
<223> n is a, c, g, or t

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catatgtacg caaatcctgg ggcgtttgca aaccgcatc cggggcgtct ggcccatgc      120
ccggccgggc gtttgagggc tactgccacg cagcgtttct ggagcctgcc ggctggtgcc      180
ctggtggcct ttatctctgt cccctttgt cctctttatc tcaggctctc caggaggccg      240
gggggcccac tccgcctatc gctcccctcg gctacgctgc cactccaatg ccccgaggt      300
cgcgagctgc tggtctttcg aaggcgccgg agaaccaggg gcgtcccgcg ccacctctga      360
ctcggagcag cgccgagcac tgacgtccc gcccttgggc aaggacgcca gtgcgcccgc      420
gcgcgtccct ctgcgcggca gcccgtcgcg ggccctcaag gggaagccca ggccagg      477

atg gcc ccg ggt cgc gcg gtg gcc ggg ctc ctg ttg ctg gcg gcc gcc      525
Met Ala Pro Gly Arg Ala Val Ala Gly Leu Leu Leu Leu Ala Ala Ala
1          5          10          15

ggc ctc gga gga gtg gcg gag ggg cca ggg cta gcc ttc agc gag gat      573
Gly Leu Gly Gly Val Ala Glu Gly Pro Gly Leu Ala Phe Ser Glu Asp
          20          25          30

gtg ctg agc gtg ttc ggc gcg aat ctg agc ctg tcg gcg gcg cag ctc      621
Val Leu Ser Val Phe Gly Ala Asn Leu Ser Leu Ser Ala Ala Gln Leu
          35          40          45

cag cac ttg ctg gag cag atg gga gcc gcc tcc cgc gtg ggc gtc ccg      669
Gln His Leu Leu Glu Gln Met Gly Ala Ala Ser Arg Val Gly Val Pro
          50          55          60

gag cct ggc cag ctg cac ttc aac cag tgt tta act gct gaa gag atc      717
Glu Pro Gly Gln Leu His Phe Asn Gln Cys Leu Thr Ala Glu Glu Ile
65          70          75          80

ttt tcc ctt cat ggc ttt tca aat gct acc caa ata acc agc tcc aaa      765
Phe Ser Leu His Gly Phe Ser Asn Ala Thr Gln Ile Thr Ser Ser Lys
          85          90          95

ttc tct gtc atc tgt cca gca gtc tta cag caa ttg aac ttt cac cca      813
Phe Ser Val Ile Cys Pro Ala Val Leu Gln Gln Leu Asn Phe His Pro
          100          105          110

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tgt gag gat cgg ccc aag cac aaa aca aga cca agt cat tca gaa gtt Cys Glu Asp Arg Pro Lys His Lys Thr Arg Pro Ser His Ser Glu Val 115 120 125	861
tgg gga tat gga ttc ctg tca gtg acg att att aat ctg gca tct ctc Trp Gly Tyr Gly Phe Leu Ser Val Thr Ile Ile Asn Leu Ala Ser Leu 130 135 140	909
ctc gga ttg att ttg act cca ctg ata aag aaa tct tat ttc cca aag Leu Gly Leu Ile Leu Thr Pro Leu Ile Lys Lys Ser Tyr Phe Pro Lys 145 150 155 160	957
att ttg acc ttt ttt gtg ggg ctg gct att ggg act ctt ttt tca aat Ile Leu Thr Phe Phe Val Gly Leu Ala Ile Gly Thr Leu Phe Ser Asn 165 170 175	1005
gca att ttc caa ctt att cca gag gca ttt gga ttt gat ccc aaa gtc Ala Ile Phe Gln Leu Ile Pro Glu Ala Phe Gly Phe Asp Pro Lys Val 180 185 190	1053
gac agt tat gtt gag aag gca gtt gct gtg ttt ggt gga ttt tac cta Asp Ser Tyr Val Glu Lys Ala Val Ala Val Phe Gly Gly Phe Tyr Leu 195 200 205	1101
ctt ttc ttt ttt gaa aga atg cta aag atg tta tta aag aca tat ggt Leu Phe Phe Phe Glu Arg Met Leu Lys Met Leu Leu Lys Thr Tyr Gly 210 215 220	1149
cag aat ggt cat acc cac ttt gga aat gat aac ttt ggt cct caa gaa Gln Asn Gly His Thr His Phe Gly Asn Asp Asn Phe Gly Pro Gln Glu 225 230 235 240	1197
aaa act cat caa cct aaa gca tta cct gcc atc aat ggt gtg aca tgc Lys Thr His Gln Pro Lys Ala Leu Pro Ala Ile Asn Gly Val Thr Cys 245 250 255	1245
tat gca aat cct gct gtc aca gaa gct aat gga cat atc cat ttt gat Tyr Ala Asn Pro Ala Val Thr Glu Ala Asn Gly His Ile His Phe Asp 260 265 270	1293
aat gtc agt gtg gta tct cta cag gat gga aaa aaa gag cca agt tca Asn Val Ser Val Val Ser Leu Gln Asp Gly Lys Lys Glu Pro Ser Ser 275 280 285	1341
tgt acc tgt ttg aag ggg ccc aaa ctg tca gaa ata ggg acg att gcc Cys Thr Cys Leu Lys Gly Pro Lys Leu Ser Glu Ile Gly Thr Ile Ala 290 295 300	1389
tgg atg ata acg ctc tgc gat gcc ctc cac aat ttc atc gat ggc ctg Trp Met Ile Thr Leu Cys Asp Ala Leu His Asn Phe Ile Asp Gly Leu 305 310 315 320	1437
gcg att ggg gct tcc tgc acc ttg tct ctc ctt cag gga ctc agt act Ala Ile Gly Ala Ser Cys Thr Leu Ser Leu Leu Gln Gly Leu Ser Thr 325 330 335	1485

tcc ata gca atc cta tgt gag gag ttt ccc cac gag tta gga gac ttt	1533
Ser Ile Ala Ile Leu Cys Glu Glu Phe Pro His Glu Leu Gly Asp Phe	
340 345 350	
gtg atc cta ctc aat gca ggg atg agc act cga caa gcc ttg cta ttc	1581
Val Ile Leu Leu Asn Ala Gly Met Ser Thr Arg Gln Ala Leu Leu Phe	
355 360 365	
aac ttc ctt tct gca tgt tcc tgc tat gtt ggg cta gct ttt ggc att	1629
Asn Phe Leu Ser Ala Cys Ser Cys Tyr Val Gly Leu Ala Phe Gly Ile	
370 375 380	
ttg gtg ggc aac aat ttc gct cca aat att ata ttt gca ctt gct gga	1677
Leu Val Gly Asn Asn Phe Ala Pro Asn Ile Ile Phe Ala Leu Ala Gly	
385 390 395 400	
ggc atg ttc ctc tat att tct ctg gca gat atg ttt cca gag atg aat	1725
Gly Met Phe Leu Tyr Ile Ser Leu Ala Asp Met Phe Pro Glu Met Asn	
405 410 415	
gat atg ctg aga gaa aag gta act gga aga aaa acc gat ttc acc ttc	1773
Asp Met Leu Arg Glu Lys Val Thr Gly Arg Lys Thr Asp Phe Thr Phe	
420 425 430	
ttc atg att cag aat gct gga atg tta act gga ttc aca gcc att cta	1821
Phe Met Ile Gln Asn Ala Gly Met Leu Thr Gly Phe Thr Ala Ile Leu	
435 440 445	
ctc att acc ttg tat gca gga gaa atc gaa ttg gag taa tagaaaatgg	1870
Leu Ile Thr Leu Tyr Ala Gly Glu Ile Glu Leu Glu	
450 455 460	
aagatggtgt tgttaataaa ggcatttaaat agataaaaac atctccaaaa aggattttga	1930
agctgatcct atttagttaa aaagataatt ttgctttcaa ctgtaggtcc agaaaactaa	1990
ttattggcat cagtctgtga aatagtccat tatttggtgt taaaaatgct tcaaaagggt	2050
ttcagtgtca gtctgagatg cctggtatat aggagccttt gggaaatact tatttttcag	2110
tattccatgc atattagata tcaccatgaa gcaagagaca tgcattctat aatcatgtag	2170
acactcagac tcaggggaaa atacaagtta taccctgaaa gccttttaaaa ctctatggta	2230
ggatcaaaga ttcaaattggt ttcagagagg ttttatttca attaatgtgt tctagtgtt	2290
tcaagagcaa gtacatcaaa atgtagaagg taaaatgtat gcaacactaa tataaattat	2350
tccaagtctt taaggagcca aagaaaaaaaa agatttctca cagctttttg ttctgttttg	2410
tatttcaatt aggaacttgc agtattattt tgaaaaccat tctaaaataa taggagttag	2470
gaaataaata aagttttgct agccctgcta agttcaggct tagaggctta tcgctaagtn	2530
taaacttcac cagattccac gaaaagctgg atagcttttt ttctgactta tgttgtggtt	2590

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gcaccctca caaatggcag aacagtatgt aaagctggta acacctcggg ttcagtgcac 2650
catgtgtttg ctttgtgaag gtgaagaata tgttggttta gagaaagaaa ttggatgtaa 2710
ttttatgcaa tttactttta aagacaaaca taactattta gcagagaata ttttaataaa 2770
tgcaaaacaa cagctggact gctgtacatc aaggacagat taactggaaa acatatgttc 2830
cttatgtgtg attgagagcc attcagaaaa gacttccttt gtgttcagcc tatacttttc 2890
catatggtat accttgaaaa aaattagcac accatgggta tttttctacc ttttataaaa 2950
gacagagcct gtttactcat ttagaagata gagaaaattg gtctaaaatt gaacatccta 3010
gattcacact cccaagtcac ttaaggtgat ttgatgggta ggaaaatgat tgacaaagcc 3070
caacaatgat ctccaggaatt acattttcca acagaccaa aaatgttttc atgtagcagc 3130
aatgcagatt tgggtgaatat ttaatatata ttttagtatg tatttcactt tatgactgac 3190
aattaaaaaa tattgttttg ccaaatagta aacacccttt tgaaaccatg aaaaaa 3246

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<210> 36
<211> 460
<212> PRT
<213> Homo sapiens

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<400> 36

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Met Ala Pro Gly Arg Ala Val Ala Gly Leu Leu Leu Leu Ala Ala Ala
1           5           10           15

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```

Gly Leu Gly Gly Val Ala Glu Gly Pro Gly Leu Ala Phe Ser Glu Asp
20           25           30

```

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Val Leu Ser Val Phe Gly Ala Asn Leu Ser Leu Ser Ala Ala Gln Leu
35           40           45

```

```

Gln His Leu Leu Glu Gln Met Gly Ala Ala Ser Arg Val Gly Val Pro
50           55           60

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Glu Pro Gly Gln Leu His Phe Asn Gln Cys Leu Thr Ala Glu Glu Ile
65           70           75           80

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Phe Ser Leu His Gly Phe Ser Asn Ala Thr Gln Ile Thr Ser Ser Lys
85           90           95

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Phe Ser Val Ile Cys Pro Ala Val Leu Gln Gln Leu Asn Phe His Pro
100          105          110

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Cys Glu Asp Arg Pro Lys His Lys Thr Arg Pro Ser His Ser Glu Val
 115 120 125

Trp Gly Tyr Gly Phe Leu Ser Val Thr Ile Ile Asn Leu Ala Ser Leu
 130 135 140

Leu Gly Leu Ile Leu Thr Pro Leu Ile Lys Lys Ser Tyr Phe Pro Lys
 145 150 155 160

Ile Leu Thr Phe Phe Val Gly Leu Ala Ile Gly Thr Leu Phe Ser Asn
 165 170 175

Ala Ile Phe Gln Leu Ile Pro Glu Ala Phe Gly Phe Asp Pro Lys Val
 180 185 190

Asp Ser Tyr Val Glu Lys Ala Val Ala Val Phe Gly Gly Phe Tyr Leu
 195 200 205

Leu Phe Phe Phe Glu Arg Met Leu Lys Met Leu Leu Lys Thr Tyr Gly
 210 215 220

Gln Asn Gly His Thr His Phe Gly Asn Asp Asn Phe Gly Pro Gln Glu
 225 230 235 240

Lys Thr His Gln Pro Lys Ala Leu Pro Ala Ile Asn Gly Val Thr Cys
 245 250 255

Tyr Ala Asn Pro Ala Val Thr Glu Ala Asn Gly His Ile His Phe Asp
 260 265 270

Asn Val Ser Val Val Ser Leu Gln Asp Gly Lys Lys Glu Pro Ser Ser
 275 280 285

Cys Thr Cys Leu Lys Gly Pro Lys Leu Ser Glu Ile Gly Thr Ile Ala
 290 295 300

Trp Met Ile Thr Leu Cys Asp Ala Leu His Asn Phe Ile Asp Gly Leu
 305 310 315 320

Ala Ile Gly Ala Ser Cys Thr Leu Ser Leu Leu Gln Gly Leu Ser Thr
 325 330 335

gta ggg ggc tca gtc ccc aac ctg ggc cct gct gag cag gag cag aac Val Gly Gly Ser Val Pro Asn Leu Gly Pro Ala Glu Gln Glu Gln Asn 25 30 35	213
cat tac ctg gcc cag ctg ttt ggc ctg tac ggc gag aat ggg acg ctg His Tyr Leu Ala Gln Leu Phe Gly Leu Tyr Gly Glu Asn Gly Thr Leu 40 45 50	261
act gca ggg ggc ttg gcg cgg ctt ctc cac agc ctg ggg cta ggc cga Thr Ala Gly Gly Leu Ala Arg Leu Leu His Ser Leu Gly Leu Gly Arg 55 60 65	309
gtt cag ggg ctt cgc ctg gga cag cat ggg cct ctg act gga cgg gct Val Gln Gly Leu Arg Leu Gly Gln His Gly Pro Leu Thr Gly Arg Ala 70 75 80	357
gca tcc cca gct gca gac aat tcc aca cac agg cca cag aac cct gag Ala Ser Pro Ala Ala Asp Asn Ser Thr His Arg Pro Gln Asn Pro Glu 85 90 95 100	405
ctg agt gtg gat gtc tgg gca ggg atg cct ctg ggt ccc tca ggg tgg Leu Ser Val Asp Val Trp Ala Gly Met Pro Leu Gly Pro Ser Gly Trp 105 110 115	453
ggt gac ctg gaa gag tca aag gcc cct cac cta ccc cgt ggg cca gcc Gly Asp Leu Glu Glu Ser Lys Ala Pro His Leu Pro Arg Gly Pro Ala 120 125 130	501
ccc tcg ggc ctg gac ctc ctt cac agg ctt ctg ttg ctg gac cac tca Pro Ser Gly Leu Asp Leu Leu His Arg Leu Leu Leu Asp His Ser 135 140 145	549
ttg gct gac cac ctg aat gag gat tgt ctg aac ggc tcc cag ctg ctg Leu Ala Asp His Leu Asn Glu Asp Cys Leu Asn Gly Ser Gln Leu Leu 150 155 160	597
gtc aat ttt ggc ttg agc ccc gct gct cct ctg acc cct cgt cag ttt Val Asn Phe Gly Leu Ser Pro Ala Ala Pro Leu Thr Pro Arg Gln Phe 165 170 175 180	645
gct ctg ctg tgc cca gcc ctg ctt tat cag atc gac agc cgc gtc tgc Ala Leu Leu Cys Pro Ala Leu Leu Tyr Gln Ile Asp Ser Arg Val Cys 185 190 195	693
atc ggc gct ccg gcc cct gca ccc cca ggg gat cta cta tct gcc ctg Ile Gly Ala Pro Ala Pro Ala Pro Pro Gly Asp Leu Leu Ser Ala Leu 200 205 210	741
ctt cag agt gcc ctg gca gtc ctg ttg ctc agc ctc cct tct ccc cta Leu Gln Ser Ala Leu Ala Val Leu Leu Leu Ser Leu Pro Ser Pro Leu 215 220 225	789
tcc ctg ctg ctg ctg cgg ctc ctg gga cct cgt cta cta cgg ccc ttg Ser Leu Leu Leu Leu Arg Leu Leu Gly Pro Arg Leu Leu Arg Pro Leu 230 235 240	837

ctg ggc ttc ctg ggg gcc ctg gcg gtg ggc act ctt tgt ggg gat gca Leu Gly Phe Leu Gly Ala Leu Ala Val Gly Thr Leu Cys Gly Asp Ala 245 250 255 260	885
ctg cta cat ctg cta ccg cat gca caa gaa ggg cgg cac gca gga cct Leu Leu His Leu Leu Pro His Ala Gln Glu Gly Arg His Ala Gly Pro 265 270 275	933
ggc gga cta cca gag aag gac ctg ggc ccg ggg ctg tca gtg ctc gga Gly Gly Leu Pro Glu Lys Asp Leu Gly Pro Gly Leu Ser Val Leu Gly 280 285 290	981
ggc ctc ttc ctg ctc ttt gtg ctg gag aac atg ctg ggg ctt ttg cgg Gly Leu Phe Leu Leu Phe Val Leu Glu Asn Met Leu Gly Leu Leu Arg 295 300 305	1029
cac cga ggg ctc agg cca aga tgc tgc agg cga aaa cga agg aat ctc His Arg Gly Leu Arg Pro Arg Cys Cys Arg Arg Lys Arg Arg Asn Leu 310 315 320	1077
gaa aca cgc aac ttg gat ccg gag aat ggc agt ggg atg gcc ctt cag Glu Thr Arg Asn Leu Asp Pro Glu Asn Gly Ser Gly Met Ala Leu Gln 325 330 335 340	1125
ccc cta cag gca gct cca gag cca ggg gct cag ggc cag agg gag aag Pro Leu Gln Ala Ala Pro Glu Pro Gly Ala Gln Gly Gln Arg Glu Lys 345 350 355	1173
aac agc cag cac cca cca gct ctg gcc cct cct ggg cac caa ggc cac Asn Ser Gln His Pro Pro Ala Leu Ala Pro Pro Gly His Gln Gly His 360 365 370	1221
agt cat ggg cac cag ggt ggc act gat atc acg tgg atg gtc ctc ctg Ser His Gly His Gln Gly Gly Thr Asp Ile Thr Trp Met Val Leu Leu 375 380 385	1269
gga gat ggt cta cac aac ctc act gat ggg ctg gcc ata ggt gct gcc Gly Asp Gly Leu His Asn Leu Thr Asp Gly Leu Ala Ile Gly Ala Ala 390 395 400	1317
ttc tct gat ggc ttc tcc agc ggc ctc agt acc acc tta gcg gtc ttc Phe Ser Asp Gly Phe Ser Ser Gly Leu Ser Thr Thr Leu Ala Val Phe 405 410 415 420	1365
tgc cat gag ctg ccc cac gaa ctg ggt gac ttt gcc atg ctg ctc cag Cys His Glu Leu Pro His Glu Leu Gly Asp Phe Ala Met Leu Leu Gln 425 430 435	1413
tca ggg ctg tcc ttt cgg cgg ctg ctg ctg ctg agc ctc gtg tct gga Ser Gly Leu Ser Phe Arg Arg Leu Leu Leu Ser Leu Val Ser Gly 440 445 450	1461
gcc ctg gga ttg ggg ggt gca gtc ctg ggg gtg ggg ctc agc ctg ggc Ala Leu Gly Leu Gly Gly Ala Val Leu Gly Val Gly Leu Ser Leu Gly 455 460 465	1509

cct gtc ccc ctc act ccc tgg gtg ttt ggg gtc act gct ggg gtc ttc 1557
 Pro Val Pro Leu Thr Pro Trp Val Phe Gly Val Thr Ala Gly Val Phe
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 ctc tat gtg gcc ctt gtg gac atg cta cca gcc ctg ctt cgt cct ccg 1605
 Leu Tyr Val Ala Leu Val Asp Met Leu Pro Ala Leu Leu Arg Pro Pro
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 Glu Pro Leu Pro Thr Pro His Val Leu Leu Gln Gly Leu Gly Leu Leu
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 Leu Gly Gly Gly Leu Met Leu Ala Ile Thr Leu Leu Glu Glu Arg Leu
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 ctg ccc gtg acc act gag ggc tga tggggccagt ggaaaggggt cgggttgccc 1755
 Leu Pro Val Thr Thr Glu Gly
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 ttccttcccc ccaaccacag gaatggaggc gggacacagg gccagtagga gcaataggat 1815

 ttttaataaac agaaccctatc ccaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1875

 aaaaaaaaaa aaaaaaaaaa 1895

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20 25 30

Gln Glu Gln Asn His Tyr Leu Ala Gln Leu Phe Gly Leu Tyr Gly Glu
35 40 45

Asn Gly Thr Leu Thr Ala Gly Gly Leu Ala Arg Leu Leu His Ser Leu
50 55 60

Gly Leu Gly Arg Val Gln Gly Leu Arg Leu Gly Gln His Gly Pro Leu
65 70 75 80

Thr Gly Arg Ala Ala Ser Pro Ala Ala Asp Asn Ser Thr His Arg Pro
85 90 95

Gln Asn Pro Glu Leu Ser Val Asp Val Trp Ala Gly Met Pro Leu Gly
 100 105 110

Pro Ser Gly Trp Gly Asp Leu Glu Glu Ser Lys Ala Pro His Leu Pro
 115 120 125

Arg Gly Pro Ala Pro Ser Gly Leu Asp Leu Leu His Arg Leu Leu Leu
 130 135 140

Leu Asp His Ser Leu Ala Asp His Leu Asn Glu Asp Cys Leu Asn Gly
 145 150 155 160

Ser Gln Leu Leu Val Asn Phe Gly Leu Ser Pro Ala Ala Pro Leu Thr
 165 170 175

Pro Arg Gln Phe Ala Leu Leu Cys Pro Ala Leu Leu Tyr Gln Ile Asp
 180 185 190

Ser Arg Val Cys Ile Gly Ala Pro Ala Pro Ala Pro Pro Gly Asp Leu
 195 200 205

Leu Ser Ala Leu Leu Gln Ser Ala Leu Ala Val Leu Leu Leu Ser Leu
 210 215 220

Pro Ser Pro Leu Ser Leu Leu Leu Leu Arg Leu Leu Gly Pro Arg Leu
 225 230 235 240

Leu Arg Pro Leu Leu Gly Phe Leu Gly Ala Leu Ala Val Gly Thr Leu
 245 250 255

Cys Gly Asp Ala Leu Leu His Leu Leu Pro His Ala Gln Glu Gly Arg
 260 265 270

His Ala Gly Pro Gly Gly Leu Pro Glu Lys Asp Leu Gly Pro Gly Leu
 275 280 285

Ser Val Leu Gly Gly Leu Phe Leu Leu Phe Val Leu Glu Asn Met Leu
 290 295 300

Gly Leu Leu Arg His Arg Gly Leu Arg Pro Arg Cys Cys Arg Arg Lys
 305 310 315 320

Arg Arg Asn Leu Glu Thr Arg Asn Leu Asp Pro Glu Asn Gly Ser Gly
 325 330 335

Met Ala Leu Gln Pro Leu Gln Ala Ala Pro Glu Pro Gly Ala Gln Gly
 340 345 350

Gln Arg Glu Lys Asn Ser Gln His Pro Pro Ala Leu Ala Pro Pro Gly
 355 360 365

His Gln Gly His Ser His Gly His Gln Gly Gly Thr Asp Ile Thr Trp
 370 375 380

Met Val Leu Leu Gly Asp Gly Leu His Asn Leu Thr Asp Gly Leu Ala
 385 390 395 400

Ile Gly Ala Ala Phe Ser Asp Gly Phe Ser Ser Gly Leu Ser Thr Thr
 405 410 415

Leu Ala Val Phe Cys His Glu Leu Pro His Glu Leu Gly Asp Phe Ala
 420 425 430

Met Leu Leu Gln Ser Gly Leu Ser Phe Arg Arg Leu Leu Leu Leu Ser
 435 440 445

Leu Val Ser Gly Ala Leu Gly Leu Gly Gly Ala Val Leu Gly Val Gly
 450 455 460

Leu Ser Leu Gly Pro Val Pro Leu Thr Pro Trp Val Phe Gly Val Thr
 465 470 475 480

Ala Gly Val Phe Leu Tyr Val Ala Leu Val Asp Met Leu Pro Ala Leu
 485 490 495

Leu Arg Pro Pro Glu Pro Leu Pro Thr Pro His Val Leu Leu Gln Gly
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Leu Gly Leu Leu Leu Gly Gly Gly Leu Met Leu Ala Ile Thr Leu Leu
 515 520 525

Glu Glu Arg Leu Leu Pro Val Thr Thr Glu Gly
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acctccatcc	aagacagact	caaggtggag	gaagcgtgga	a	atg tgc ttc cgg aca	236										
					Met Cys Phe Arg Thr											
					1 5											
aag ctc tca gta tcc tgg gtg cca ttg ttt ctt cta ctc agc cgt gtt	284															
Lys Leu Ser Val Ser Trp Val Pro Leu Phe Leu Leu Leu Ser Arg Val																
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Asp His Pro Pro His Asn His Ser Arg Ser Leu Ile Lys Thr Leu Leu																
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Asn Leu Cys Phe Glu Pro Asp Ala Leu Leu Leu Ile Ala Gly Gly Asn																
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ttt gaa gat cag ctt aga gaa gaa gtg gtc cag aga gtt tct ctt ctc	572															
Phe Glu Asp Gln Leu Arg Glu Glu Val Val Gln Arg Val Ser Leu Leu																
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ctt ctc tat tac att att cat cag gaa gag atc tgt tct tca aag ctc	620															
Leu Leu Tyr Tyr Ile Ile His Gln Glu Glu Ile Cys Ser Ser Lys Leu																
	120 125 130															

aac atg agt aat aaa gag tat aaa ttt tac cta cac agc cta ctg agc	668
Asn Met Ser Asn Lys Glu Tyr Lys Phe Tyr Leu His Ser Leu Leu Ser	
135 140 145	
ctc agg cag gat gaa gat tcc tct ttc ctt tca cag aat gag aca gaa	716
Leu Arg Gln Asp Glu Asp Ser Ser Phe Leu Ser Gln Asn Glu Thr Glu	
150 155 160 165	
gat atc ttg gct ttc acc agg cag tac ttt gac act tct caa agc cag	764
Asp Ile Leu Ala Phe Thr Arg Gln Tyr Phe Asp Thr Ser Gln Ser Gln	
170 175 180	
tgt atg gaa acc aaa acg ctg cag aaa aaa tct gga ata gtg agc agt	812
Cys Met Glu Thr Lys Thr Leu Gln Lys Lys Ser Gly Ile Val Ser Ser	
185 190 195	
gaa ggt gct aat gaa agt acg ctt cct cag ttg gca gcc atg atc att	860
Glu Gly Ala Asn Glu Ser Thr Leu Pro Gln Leu Ala Ala Met Ile Ile	
200 205 210	
act ttg tcc ctc cag ggt gtt tgt ctg gga caa gga aac ttg cct tcc	908
Thr Leu Ser Leu Gln Gly Val Cys Leu Gly Gln Gly Asn Leu Pro Ser	
215 220 225	
cca gac tac ttt aca gaa tat att ttc agt tcc ttg aat cgt acg aat	956
Pro Asp Tyr Phe Thr Glu Tyr Ile Phe Ser Ser Leu Asn Arg Thr Asn	
230 235 240 245	
acc ctc cgc cta tca gaa cta gac caa ctc ctc aac act ctc tgg acc	1004
Thr Leu Arg Leu Ser Glu Leu Asp Gln Leu Leu Asn Thr Leu Trp Thr	
250 255 260	
aga agt act tgt atc aaa aat gag aaa atc cat caa ttt caa agg aaa	1052
Arg Ser Thr Cys Ile Lys Asn Glu Lys Ile His Gln Phe Gln Arg Lys	
265 270 275	
caa aac aac ata ata acc cat gat cag ggc tat tct aat ttc tct tca	1100
Gln Asn Asn Ile Ile Thr His Asp Gln Gly Tyr Ser Asn Phe Ser Ser	
280 285 290	
tcc atg gaa aaa gag tct gag gat ggt cca gtt tcc tgg gat cag acc	1148
Ser Met Glu Lys Glu Ser Glu Asp Gly Pro Val Ser Trp Asp Gln Thr	
295 300 305	
tgc ttc tct gct agg cag ctg gtg gag ata ttt cta cag aag ggc ctc	1196
Cys Phe Ser Ala Arg Gln Leu Val Glu Ile Phe Leu Gln Lys Gly Leu	
310 315 320 325	
tca ctc att tct aag gag gac ttt aag caa atg agt cca ggg atc atc	1244
Ser Leu Ile Ser Lys Glu Asp Phe Lys Gln Met Ser Pro Gly Ile Ile	
330 335 340	
cag cag ctc ctc agc tgc tcc tgc cac tta ccc aag gac caa caa gca	1292
Gln Gln Leu Leu Ser Cys Ser Cys His Leu Pro Lys Asp Gln Gln Ala	
345 350 355	

aag ctg cca cct acc act ctg gag aaa tac ggc tac agc acg gtg gct Lys Leu Pro Pro Thr Thr Leu Glu Lys Tyr Gly Tyr Ser Thr Val Ala 360 365 370	1340
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ggc atc cat gga ttt ttc ttg ata gaa aaa tgt ttt att ctt ctt gta Gly Ile His Gly Phe Phe Leu Ile Glu Lys Cys Phe Ile Leu Leu Val 455 460 465	1628
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gat ggc cta gcc ata gga gca gcc ttc tca tca tca tcc gag tca gga Asp Gly Leu Ala Ile Gly Ala Ala Phe Ser Ser Ser Ser Glu Ser Gly 520 525 530	1820
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 Ile Gly Leu Ser Val Ser Ala Asp Pro Cys Val Gln Asp Trp Ile Phe
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 Thr Val Thr Ala Gly Met Phe Leu Tyr Leu Ser Leu Val Glu Met Leu
 600 605 610

cct gaa atg act cat gtt caa aca caa cga ccc tgg atg atg ttt ctc 2108
 Pro Glu Met Thr His Val Gln Thr Gln Arg Pro Trp Met Met Phe Leu
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ctg caa aac ttt gga ttg atc cta ggt tgg ctt tct ctc ctg ctc ttg 2156
 Leu Gln Asn Phe Gly Leu Ile Leu Gly Trp Leu Ser Leu Leu Leu Leu
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 Ala Ile Tyr Glu Gln Asn Ile Lys Ile
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gactagtttt 2636

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Asp Ser Arg Ser Arg Gly Ser Ser Gly Gln Pro Ala Asp Leu Leu Gln
 35 40 45

Val Leu Ser Ala Gly Asp His Pro Pro His Asn His Ser Arg Ser Leu
50 55 60

Ile Lys Thr Leu Leu Glu Lys Thr Gly Cys Pro Arg Arg Arg Asn Gly
65 70 75 80

Met Gln Gly Asp Cys Asn Leu Cys Phe Glu Pro Asp Ala Leu Leu Leu
85 90 95

Ile Ala Gly Gly Asn Phe Glu Asp Gln Leu Arg Glu Glu Val Val Gln
100 105 110

Arg Val Ser Leu Leu Leu Leu Tyr Tyr Ile Ile His Gln Glu Glu Ile
115 120 125

Cys Ser Ser Lys Leu Asn Met Ser Asn Lys Glu Tyr Lys Phe Tyr Leu
130 135 140

His Ser Leu Leu Ser Leu Arg Gln Asp Glu Asp Ser Ser Phe Leu Ser
145 150 155 160

Gln Asn Glu Thr Glu Asp Ile Leu Ala Phe Thr Arg Gln Tyr Phe Asp
165 170 175

Thr Ser Gln Ser Gln Cys Met Glu Thr Lys Thr Leu Gln Lys Lys Ser
180 185 190

Gly Ile Val Ser Ser Glu Gly Ala Asn Glu Ser Thr Leu Pro Gln Leu
195 200 205

Ala Ala Met Ile Ile Thr Leu Ser Leu Gln Gly Val Cys Leu Gly Gln
210 215 220

Gly Asn Leu Pro Ser Pro Asp Tyr Phe Thr Glu Tyr Ile Phe Ser Ser
225 230 235 240

Leu Asn Arg Thr Asn Thr Leu Arg Leu Ser Glu Leu Asp Gln Leu Leu
245 250 255

Asn Thr Leu Trp Thr Arg Ser Thr Cys Ile Lys Asn Glu Lys Ile His
260 265 270

Gln Phe Gln Arg Lys Gln Asn Asn Ile Ile Thr His Asp Gln Gly Tyr
 275 280 285

Ser Asn Phe Ser Ser Ser Met Glu Lys Glu Ser Glu Asp Gly Pro Val
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Ser Trp Asp Gln Thr Cys Phe Ser Ala Arg Gln Leu Val Glu Ile Phe
 305 310 315 320

Leu Gln Lys Gly Leu Ser Leu Ile Ser Lys Glu Asp Phe Lys Gln Met
 325 330 335

Ser Pro Gly Ile Ile Gln Gln Leu Leu Ser Cys Ser Cys His Leu Pro
 340 345 350

Lys Asp Gln Gln Ala Lys Leu Pro Pro Thr Thr Leu Glu Lys Tyr Gly
 355 360 365

Tyr Ser Thr Val Ala Val Thr Leu Leu Thr Leu Gly Ser Met Leu Gly
 370 375 380

Thr Ala Leu Val Leu Phe His Ser Cys Glu Glu Asn Tyr Arg Leu Ile
 385 390 395 400

Leu Gln Leu Phe Val Gly Leu Ala Val Gly Thr Leu Ser Gly Asp Ala
 405 410 415

Leu Leu His Leu Ile Pro Gln Val Leu Gly Leu His Lys Gln Glu Ala
 420 425 430

Pro Glu Phe Gly His Phe His Glu Ser Lys Gly His Ile Trp Lys Leu
 435 440 445

Met Gly Leu Ile Gly Gly Ile His Gly Phe Phe Leu Ile Glu Lys Cys
 450 455 460

Phe Ile Leu Leu Val Ser Pro Asn Asp Lys Lys Ser Pro Glu Asp Ser
 465 470 475 480

Gln Ala Ala Glu Met Pro Ile Gly Ser Met Thr Ala Ser Asn Arg Lys
 485 490 495

Cys Lys Ala Ile Ser Leu Leu Ala Ile Met Ile Leu Val Gly Asp Ser
 500 505 510

Leu His Asn Phe Ala Asp Gly Leu Ala Ile Gly Ala Ala Phe Ser Ser
 515 520 525

Ser Ser Glu Ser Gly Val Thr Thr Thr Ile Ala Ile Leu Cys His Glu
 530 535 540

Ile Pro His Glu Met Gly Asp Phe Ala Val Leu Leu Ser Ser Gly Leu
 545 550 555 560

Ser Met Lys Thr Ala Ile Leu Met Asn Phe Ile Ser Ser Leu Thr Ala
 565 570 575

Phe Met Gly Leu Tyr Ile Gly Leu Ser Val Ser Ala Asp Pro Cys Val
 580 585 590

Gln Asp Trp Ile Phe Thr Val Thr Ala Gly Met Phe Leu Tyr Leu Ser
 595 600 605

Leu Val Glu Met Leu Pro Glu Met Thr His Val Gln Thr Gln Arg Pro
 610 615 620

Trp Met Met Phe Leu Leu Gln Asn Phe Gly Leu Ile Leu Gly Trp Leu
 625 630 635 640

Ser Leu Leu Leu Leu Ala Ile Tyr Glu Gln Asn Ile Lys Ile
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 Met Pro Gly Cys
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Pro Cys Pro Gly Cys Gly Met Ala Gly Pro Arg Leu Leu Phe Leu Thr	
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gcc ctt gcc ctg gag ctc ttg gga agg gct ggg ggt tcc cag ccg gcc	150
Ala Leu Ala Leu Glu Leu Leu Gly Arg Ala Gly Gly Ser Gln Pro Ala	
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ctc cgg agc cgg ggg act gcg acg gcc tgt cgc ctg gac aac aag gaa	198
Leu Arg Ser Arg Gly Thr Ala Thr Ala Cys Arg Leu Asp Asn Lys Glu	
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Ser Glu Ser Trp Gly Ala Leu Leu Ser Gly Glu Arg Leu Asp Thr Trp	
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Ile Cys Ser Leu Leu Gly Ser Leu Met Val Gly Leu Ser Gly Val Phe	
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ccg ttg ctt gtc att ccc cta gag atg ggg acc atg ctg cgc tca gaa	342
Pro Leu Leu Val Ile Pro Leu Glu Met Gly Thr Met Leu Arg Ser Glu	
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gct ggg gcc tgg cgc ctg aag cag ctg ctc agc ttc gcc ctg ggg gga	390
Ala Gly Ala Trp Arg Leu Lys Gln Leu Leu Ser Phe Ala Leu Gly Gly	
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ctc ttg ggc aat gtg ttt ctg cat ctg ctg ccc gaa gcc tgg gcc tac	438
Leu Leu Gly Asn Val Phe Leu His Leu Leu Pro Glu Ala Trp Ala Tyr	
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Thr Cys Ser Ala Ser Pro Gly Gly Glu Gly Gln Ser Leu Gln Gln Gln	
135 140 145	
caa cag ctg ggg ctg tgg gtc att gct ggc atc ctg acc ttc ctg gcg	534
Gln Gln Leu Gly Leu Trp Val Ile Ala Gly Ile Leu Thr Phe Leu Ala	
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ttg gag aag atg ttc ctg gac agc aag gag gag ggg acc agc cag gcc	582
Leu Glu Lys Met Phe Leu Asp Ser Lys Glu Glu Gly Thr Ser Gln Ala	
165 170 175 180	
ccc aac aaa gac ccc act gct gct gcc gcc gca ctc aat gga ggc cac	630
Pro Asn Lys Asp Pro Thr Ala Ala Ala Ala Leu Asn Gly Gly His	
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tgt ctg gcc cag ccg gct gca gag ccc ggc ctc ggt gcc gtg gtc cgg	678
Cys Leu Ala Gln Pro Ala Ala Glu Pro Gly Leu Gly Ala Val Val Arg	
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Ser Ile Lys Val Ser Gly Tyr Leu Asn Leu Leu Ala Asn Thr Ile Asp	
215 220 225	

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Asn Phe Thr His Gly Leu Ala Val Ala Ala Ser Phe Leu Val Ser Lys	
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aag atc ggg ctc ctg aca acc atg gcc atc ctc ctg cat gag atc ccc	822
Lys Ile Gly Leu Leu Thr Thr Met Ala Ile Leu Leu His Glu Ile Pro	
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cat gag gtg ggc gac ttt gcc atc ctg ctc cgg gcc ggc ttt gac cga	870
His Glu Val Gly Asp Phe Ala Ile Leu Leu Arg Ala Gly Phe Asp Arg	
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Trp Ser Ala Ala Lys Leu Gln Leu Ser Thr Ala Leu Gly Gly Leu Leu	
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Gly Ala Gly Phe Ala Ile Cys Thr Gln Ser Pro Lys Gly Val Val Gly	
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Cys Ser Pro Ala Ala Glu Glu Thr Ala Ala Trp Val Leu Pro Phe Thr	
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Ser Gly Gly Phe Leu Tyr Ile Ala Leu Val Asn Val Leu Pro Asp Leu	
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Cys Ala Gly Ile Val Val Met Val Leu Phe Ser Leu Phe Val Asp	
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Asp Asn Lys Glu Ser Glu Ser Trp Gly Ala Leu Leu Ser Gly Glu Arg
 50 55 60

Leu Asp Thr Trp Ile Cys Ser Leu Leu Gly Ser Leu Met Val Gly Leu
 65 70 75 80

Ser Gly Val Phe Pro Leu Leu Val Ile Pro Leu Glu Met Gly Thr Met
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Leu Arg Ser Glu Ala Gly Ala Trp Arg Leu Lys Gln Leu Leu Ser Phe
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Ala Leu Gly Gly Leu Leu Gly Asn Val Phe Leu His Leu Leu Pro Glu
 115 120 125

Ala Trp Ala Tyr Thr Cys Ser Ala Ser Pro Gly Gly Glu Gly Gln Ser
 130 135 140

Leu Gln Gln Gln Gln Gln Leu Gly Leu Trp Val Ile Ala Gly Ile Leu
 145 150 155 160

Thr Phe Leu Ala Leu Glu Lys Met Phe Leu Asp Ser Lys Glu Glu Gly
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Thr Ser Gln Ala Pro Asn Lys Asp Pro Thr Ala Ala Ala Ala Ala Leu
 180 185 190

Asn Gly Gly His Cys Leu Ala Gln Pro Ala Ala Glu Pro Gly Leu Gly
 195 200 205

Ala Val Val Arg Ser Ile Lys Val Ser Gly Tyr Leu Asn Leu Leu Ala
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Asn Thr Ile Asp Asn Phe Thr His Gly Leu Ala Val Ala Ala Ser Phe
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Leu Val Ser Lys Lys Ile Gly Leu Leu Thr Thr Met Ala Ile Leu Leu
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His Glu Ile Pro His Glu Val Gly Asp Phe Ala Ile Leu Leu Arg Ala
 260 265 270

Gly Phe Asp Arg Trp Ser Ala Ala Lys Leu Gln Leu Ser Thr Ala Leu
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Gly Gly Leu Leu Gly Ala Gly Phe Ala Ile Cys Thr Gln Ser Pro Lys
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